

AMENDMENTS TO THE SPECIFICATION

Please replace paragraph [0064] at page 21 with the following amended paragraph:

[0064] (Polymer Production Example 5)

Into a pressure glass bottle of 1 liter sufficiently dried under an inert gas atmosphere is charged ~~bispentamethylene-bispentamethyl~~ cyclopentadienyl gadolinium tetrakis(pentafluorophenyl)borate ($[(C_5Me_5)_2Gd][B(C_6F_5)_4]$) (660 mg, 0.60 mmol) and dissolved by adding a solution of triisobutylaluminum in toluene (0.1 M, 30 mL), which is sealed with a bottle crown cap provided with rubber plug. After this reaction vessel is well cooled in a cold bath of $-20^{\circ}C$, a toluene solution of butadiene previously cooled to $-20^{\circ}C$ (6.5% by mass, 250 g) is added to conduct the polymerization reaction in a cold bath of $-20^{\circ}C$ for 30 minutes. Thereafter, 2 mL of an isopropanol solution of 2,2'-methylene-bis(4-ethyl-6-t-butylphenol) as an antioxidant (NS-5)(NS-5 concentration: 5% by mass) is added to stop the reaction, and further the reprecipitation is carried out in an isopropanol solution containing slight amounts of NS-5 and hydrochloric acid and the drying is conducted by a usual manner to obtain a polymer E in a yield of 94%.

Please replace paragraph [0065] at pages 21 and 22 with the following amended paragraph:

[0065] (Polymer Production Example 6)

There is prepared $Nd(OCOCCl_3)_3$ according to the method described in JP-A-2001-48940. Into a pressure glass bottle of 1 liter sufficiently dried under an inert gas atmosphere are charged 0.2 mmol of $Nd(OCOCCl_3)_3$ and 204.8 mg of ~~tris(pentafluorophenylborasne)~~ tris(pentafluorophenylborate) $[B(C_6F_5)_3]$, which is sealed with a

bottle crown cap provided with rubber plug. Then, a solution of triisobutylaluminum in n-hexane (0.04 M, 150 mL) is added with stirring. To the resulting solution is added a solution of butadiene in n-hexane (24.4% by mass, 222 g) to conduct the polymerization reaction in a warm water of 50°C for 3 hours with stirring. Thereafter, 2 mL of an isopropanol solution of 2,2'-methylene-bis(4-ethyl-6-t-butylphenol(as an antioxidant (NS-5)(NS-5 concentration: 5% by mass) is added to stop the reaction, and further the reprecipitation is carried out in an isopropanol solution containing slight amounts of NS-5 and hydrochloric acid and the drying is conducted by a usual manner, and further the deashing treatment is carried out by dissolving in cyclohexane solution and reprecipitating with isopropanol acidified with hydrochloric acid and the resulting solid is dried by a usual manner to obtain a polymer F in a yield of 53%.